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ABSTRACT

The relationship of contextual background to comprehension of written texts is discussed with reference to instruction in English as a second language (ESL). A theory advanced by Kerry Stewart Robichaux proposes six possible relationships between a text and its cultural "frame." Applications of the six text-frame relationships to foreign language instruction are outlined for the areas of assessing comprehension complexity, the ordering of texts within the curriculum, and assessing student performance. It is concluded that because effective, fluent reading involves prediction, which in turn requires cultural information, Robichaux's approach to the text-frame relationship can be useful to teach culture effectively, and language within that cultural framework, with variety and interest. Implications for textbook design and sequencing of materials are discussed. (MSE)

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TEXT-FRAME RELATIONSHIPS AND ESL

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INTRODUCTION

Comprehension of a message involves more than application of the linguistic knowledge of vocabulary and the facts of grammar; in addition, the text interpreter must make use of cultural knowledge. This is perhaps most evident in reading comprehension because of the typically compact nature of the written text and its isolation from non-linguistic context. It is a widely held view that effective reading involves the ability to predict (see, for example, Smith (1982)), and this large-scale prediction is impossible without access to the cultural information which the text makes reference to.

There are two common experiences in ESL which are worthy of note in this regard. First, it is frequently the case that university students in ESL can read the campus newspaper with little difficulty, although they find the ordinary community newspaper very difficult. Second, when given free rein for extensive reading, ESL students frequently select texts which are very complex in terms of syntax and vocabulary (for example, textbooks in computer science, business, or mathematics) but which are understandable to the students because they deal with areas of study in which the students already have some competence. Both of these experiences find possible explanation in the fact that knowledge of the basic subject matter (in these cases, specific knowledge relating to a subculture) facilitates comprehension.

In this paper we will summarize a theoretical proposal set forth in Robichaux (1986) and suggest application to current practice in teaching ESL, especially as it relates to textbook design and sequencing of material (this is a summary of work in progress).

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THE NOTION OF THE CULTURAL FRAME

The notion of frame or script (we will use the terms interchangeably in this paper) was originally developed within the field of artificial intelligence (see especially Minsky, 1974 and Schank and Abelson, 1977); computational parsers which were dependent upon an interpretation of syntax began to run into difficulties as they were extended to larger and more complicated structures, and it was proposed that a fuller utilization of semantics might form a more productive approach. The particular semantic notion introduced was the script, characterized by Schank and Abelson as "...a predetermined stereotyped sequence of actions that defines a well-known situation." The classical example of such a frame is the Restaurant Script, specifically the situation of eating out in a middle-class restaurant in the US. Involved are such matters as the physical setting (arrangement of tables and chairs, lighting, ambience), the order of events (reservations and a timely arrival are expected, followed by waiting to be seated, possible drink order, reference to a menu, the meal itself with the waiter checking periodically on the situation, paying, tipping). Crucial to the discussion is the fact that a given text may omit a great deal of such information, relying on the interpreter's knowledge of the frame to fill in details; but even though such information is omitted, it still may play an important role in the interpretation of the text and thus it must be taken into account in describing human understanding. Given the fact that texts typically make use of such patterns of cultural implication and expectation, if semantic information regarding such situations could be stored in a computer, and if the computer could recognize reference to such a situation in a text, it could access the stored information and associate the two for interpretation.

Clearly human beings are not computers. However, we will demonstrate in this paper that knowledge of frames is essential for human understanding of texts (and the events portrayed in them). The goal of the language teacher is to enable students to become bicultural, not just bilingual (given the assumption that the latter is in fact possible without the former), and a significant part of cultural knowledge resides in the cultural frames. One of

the specific suggestions we wish to make is that when comprehension is inadequate, the teacher may mistakenly resort to more drilling on grammar and vocabulary and general reading and comprehension skills, focusing on the linguistic aspect, when the fault may lie in simple ignorance of the cultural information as encoded in the frame.

Figure 1 is a representation of the plaque sent into space on the Pioneer 10 and 11 spacecraft.

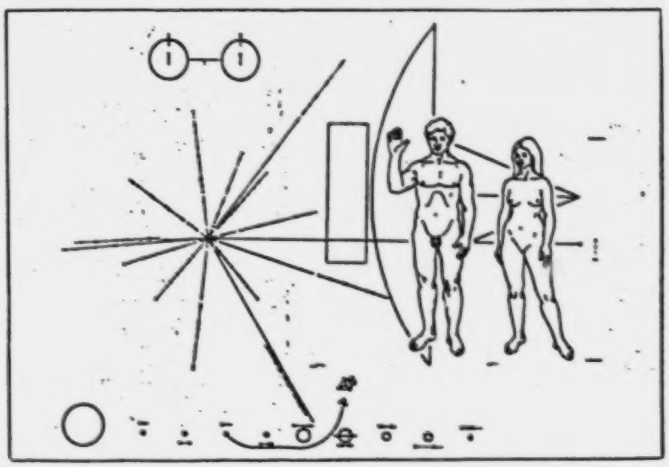

Figure 1

The hope of its designers was that if any extraterrestrial life came across the plaque, they would be able to decipher it. The following is a description of the plaque (from Sagan and Drake, 1975.89):

> Each plaque measures six by nine inches and is made of gold-anodized aluminum. These engraved cosmic greeting cards bear the location of the earth and the time the spacecraft was built and launched. The sun is located with respect to 14 pulsars. The precise periods of the pulsars are specified in binary code to allow them to be identified. Since pulsars are cosmic clocks that are running down at a largely constant rate, the difference in the pulsar periods at the time one of the spacecraft is recovered and the periods indicated on the plaque will enable any technically sophisticated civilization to deduce the year the vehicle was sent on its epic journey. Units of time and distance are specified in terms of the frequency of the hydrogen spin-flip at 1,420 megahertz. In order to identify the exact location of the spacecraft's launch a diagram of the solar system is given. The trajectory of the spacecraft is shown as it leaves the third planet, the earth, and swings by the fifth planet, Jupiter. (The diversion of Pioneer 11 past Saturn had not been planned when the plaques were prepared.) Last, the plaques show images of a man and a woman of the earth in 1973. An attempt was made to give

> the images panracial characteristics. Their heights are shown with respect to the spacecraft and are also given by a binary number stated in terms of the wavelength of the spectral line at 1,420 megahertz (21 centimeters).

What is striking here is that even though we are educated readers of English, with a high degree of mastery of grammatical skills and a large vocabulary, most of us have difficulty in understanding the description of the message because we lack enough of the (in this case, technical) frame knowledge relevant to comprehend it. Whether it could be hoped that any extraterrestrials might be able to decipher the plaque itself is anyone's guess. The assumption is that if they have the technical knowledge to intercept the spacecraft, it may be assumed that they have knowledge of the pulsars and the solar system, which would thus constitute the major part of the frame needed for interpretation.

EARLIER WORK ON FRAMES AND ESL

Our attempt in this paper is not the first at applying the notion of frames to language teaching. We summarize here a few of the most noteworthy studies.

Schallert (1975) provides evidence that "script activators" (titles) produce better understanding of unknown vocabulary; that is, if the frame is known and recognized, comprehension is improved.

Adams (1983) argues that such script activators produce better understanding even of nonsense vocabulary. Further, she demonstrates that students reading in their first language do better than those reading in their second, and she suggests that students reading in a second language should concentrate on culturally familiar material first.

Wittrock, Marks, and Doctorow (1975) provide a similar argument, demonstrating that vocabulary is more easily learned when occurring in familiar stories, and that comprehension is also better. Again, this is comparable to a reader knowing the frame, both the frame and the known stories producing expectations which aid comprehension.

Steffensen, Joag-dev, and Anderson (1979) demonstrate that knowledge of content schemata (=frames) affects intelligibility and recall. Their specific research was based upon texts in which the only variable was knowledge of the frames, with all formal characteristics comparable.

Carrell and Eisterhold (1983) propose a series of classroom activities to compensate for difference in background (frame) knowledge among students. They specifically propose various forms of text manipulation through limiting textual complexity or content, and pre-teaching of the text. There is some similarity of these ideas with our own work, and we return to this topic below.

Carrell (1987) in a carefully controlled study argues that there is a hierarchy of difficulty in comprehension of texts as follows:

easiest: familiar form, familiar content
unfamiliar form, familiar content
familiar form, unfamiliar content
hardest: unfamiliar form, unfamiliar content

This study was based upon such factors as identification of major events and correct event sequencing; corresponding to familiar content, of course, is the notion of knowledge of the frame, and its effect on facilitating comprehension is clear.

Robichaux (1986) is the work upon which this study is based. The focus of Robichaux's work is not only on the frame notion itself, but on the specific proposal of a series of possible relations which can hold between a given text and a cultural frame. We summarize this proposal below and then make some suggestions as to possible applications to ESL (and by extension, language teaching generally).

TEXT-FRAME RELATIONSHIPS

Robichaux (1986) proposes that there are at least six relations which may hold between a given text and a cultural frame referenced by that text. We consider these one by one, illustrating them with the examples given by Robichaux.

Frame Tracing (Robichaux, 1986.44):

> Bill George Kratz waited patiently, like everyone else, for his seat assignment. He reckoned that his sinuses could only withstand a non-smoking seat today. As he waited he turned to see who might be standing nearby for conversation. A tall slender fellow, a collegiate it seemed, was closest.

Crucial to Tracing is the fact that the text producer assusmes that the text interpreter has basic knowledge of the frame, so that only a few points of the frame are included in the text itself. The frame thus provides a setting for an embedded text with its own course of development (in this case the conversation to follow), which is not predictable in detail from the text itself.

Frame Manifestation (Robichaux, 1986.46)

> When I got to the end of the jetway, there was the usual bottleneck of people trying to get into the plane. The line crawled along. I studied the panel of knobs and lights that controlled the movement of the jetway and entertained the same thought that came to me at times like this--What's it like to drive a "hallway"? Finally, I inched into the plane. My hanging bag was starting to work its way through to the bones in my fingers. Travelling "light" was not without its disadvantages. On my left were the cockpit and crew. Again a panel of enigmatic knobs and lights. Some things were familiar though. An impa-

> tient push from behind propelled me on to a flight attendant who took my boarding pass. He also pointed me to an opening on the left side of the aisle that would swallow my hanging bag. I checked my ticket for my seat assignment and then found my seat. Another aisle seat.

As for Tracing, in Frame Manifestation the text producer assumes that the interpreter has basic knowledge of the frame. Manifestation differs from Tracing, however, in that in Manifestation the frame itself is the text, not simply the context for an embedded text to follow. Thus many details of the frame are included, which are the specific details of a specific example of the frame being Manifested. Commonly the details provide new information regarding the characters who are the participants in the text, but the general shape of the text is predictable from the frame itself.

Frame Augmentation (Robichaux, 1986.48):

> Next time you fly.... Don't waste valuable business time sitting in an airplane seat! Take advantage of Theta Airlines' Corporate Edge Service and make the most of your business day. Here's how: Theta Airlines is offering its Executive Class fliers FREE phone service--in flight--to anywhere in the continental U.S. Now you can make those big calls that make those big bucks while you're on your way. Call a client. Call an associate...or two...or three. That's right, with Theta's Corporate Edge Service you can even conference call--to New York--to LA--anywhere--even to another Theta jet. So, when you book your next flight, ask your travel agent or friendly Theta agent to book you on Theta's Corporate Edge Service. At Theta Airlines we want your business...to be our business.

As with Tracing and Manifestation, for Augmentation also the text producer assumes that the text interpreter has access generally to the frame involved. However, for Augmentation

the text producer knows more than the text interpreter, and it is the inclusion of this new information in the text (commonly after the text is Traced or Manifested) which characterizes Augmentation.

Frame Entry (Robichaux, 1986.50):

> The Greeks are not as keen on celebrating birthdays as we are. Instead, they celebrate their name-days. Every Greek, or I should say every proper Greek, is named after a saint of the Orthodox church. And every saint is honored on one day of the year. When that day comes when a Greek's saint is honored--when his or her name-day comes--the best of best clothes are pulled on and a trip is made to the nearest *zacharoplasteion* (pastry shop). There the celebrating Greek buys a box or two of sweets to distribute to friends throughout the day. When you encounter one of these gift-bearing Greeks and have the privilege of eating one of these delights, you wish the happy Hellene many years--*chronia polla*--and enjoy what comes to you.

In Frame Entry, the text producer assumes that the text interpreter does not have access to the frame featured in the text (in this case the Greek Name-Day Frame). Possibly later in the larger context the frame Entered here becomes the setting for further events, but at this point in the text Frame Entry alone is in focus. Note that Entry is similar to Augmentation in that both add information to the frame repertoire of the text interpreter, but in Entry the entire frame is new, while in Augmentation new facts are added to a frame already known to the text interpreter.

Frame Jumping (Robichaux, 1986.53):

> As the plane taxied to the take-off runway, the flight attendants demonstrated the use of the safety equipment.... Then, the big yellow

> cup with the straps on the side was produced.... Her rubber smile was soon covered by the cup and her head was entwined by the straps.... Our flight attendant's eyes filled with an unusual glitter, then peacefully closed. **[FOLLOWING BEGINS JUMPING]** She began to swoon, but not with the motion of the taxiing plane. She slammed against the seat next to her and began to make her descent to the aisle floor. As she went down, I noticed a thick green smoke exuding out from the mask about where it hugged her nose....

In Frame Jumping the text producer assumes that the text interpreter has knowledge of the frame. But after Tracing or Manifestation of the frame, the text begins to depart from the "normal" events of the frame, and it is the departure itself which is the story. There is no intention here on the part of the text producer to change frame knowledge; the information included in the text here is text-specific and not intended to be transfered to other instances of the same frame. But crucial is the fact that the text is understandable only against the backdrop of what is normal--if the frame is not known much of the significance of the text is lost. In that most literature depends upon Frame Jumping for its interest, it is crucial that the frame be known for such literature to be enjoyed.

Frame Juxtaposition (Robichaux, 1986.54):

> The plane surged up and my stomach surged down. I felt like I was in an express elevator downtown.

Frame Juxtaposition assumes knowledge of two or more frames. What is new here is the association of multiple frames in a single cognitive event, in this case a metaphor. If one of the frames is not known, of course, the text fails to communicate.

APPLICATIONS

There are several areas in which the notion of text-frame relationships proposed by Robichaux can have application in foreign language teaching.

Assessing Comprehension Complexity

It is a well-known fact that effective, fluent reading depends crucially upon the ability of the reader to predict. We believe that it is possible to order the six text-frame relationships which have been proposed in terms of relative complexity of prediction, as follows:

1) Frame Entry. Frame Entry introduces new frames into the text interpreter's repertoire. Ideally the text can be manipulated to the extent that it uses grammatical structures already known or readily interpretable from context, and natural vocabulary (as noted above, studies indicate that unless overwhelming in extent unknown vocabulary is largely predictable if the general content is known, which it should be if the frame is being Entered and thus includes a large number of details and associations with the interpreter's own culture).

2) Frame Augmentation. Frame Augmentation builds upon a frame already known, either one introduced by Entry, or one based upon a frame common to all cultures (e.g., patterns of marriage or courtroom behavior) but providing specifically US-culture-based details. Augmentation can be of various types, depending upon the specific details involved in the text, which also naturally provides an opportunity for possible expansion of grammatical structures and vocabulary within a known context.

3) Frame Manifestation. After a frame has been Entered or Augmented, Frame Manifestation would be a natural third step. Manifestation allows for particularly effective introduction of new vocabulary and grammatical patterns because of the predictability involved due to the fact that the text will be generally understandable even if not all details are in the beginning repertoire (in which case it involves a further example of Augmentation).

4) Frame Tracing. Frame Tracing neatly follows Entry and/or Augmentation. Here a well-known frame can provide the setting for additional frames to be accessed, either by

Entry or otherwise. And particularly, Tracing provides an ideal setting for introducing more complicated forms of text structure (e.g., sequencing of events out of chronological order) and other rhetorical devices.

5) Frame Jumping. At this point the text interpreter has control of the tools to make interaction with complex and intriguing texts possible, thus allowing for considerable reader interest. As was pointed out earlier, deviation from the norm of the typical cultural frame is understood in its full literary impact only if it is seen as a deviation, so it follows that Jumping must appear in the curriculum only after the earlier text-frame types.

6) Frame Juxtaposition. It is our opinion that this is the least important text-frame relationship, although it is essential that it be covered because it is a literary device commonly used. Clearly both frames must be known for maximum understanding.

Following an ordering such as outlined above allows for both the ongoing introduction of a full range of cultural frames, and also the ongoing introduction and drilling in natural context of grammatical structures of all types and levels of complexity, as well as vocabulary.

Ordering of Texts Within Curriculum

Assuming that this perception of relative complexity is approximately correct, it provides a ready guide to an effective ordering of materials within the classroom and in textbook design (a textbook implementing this proposal is presently under development by the authors). If correct, such an ordering should provide a maximally effective teaching situation.

We propose, then, that a given frame can be introduced and accessed in an ordering as follows:

1) Introduce a new frame by Entry, with a minimum of syntactic complexity and a minimum of new vocabulary; to the extent possible, orient the frame to a comparable frame in the interpreter's own culture.

2) Manifest the same frame to provide further examples and further opportunities for interaction with it, at the same time expanding vocabulary and introducing further grammatical structures and patterns of rhetorical organization within the same known frame context.

3) Augment the frame a time or two to provide further details and heighten interest.

4) Trace the frame to provide a lead-in to a second frame (to be introduced by Entry within the context of the first frame).

5) Jump the frame to enhance the enjoyment of the reading experience by adding variety and surprise.

6) Once two or more frames are known, use of Juxtaposition from time to time can heighten vividness.

Assessing Student Performance

It is crucial that the foreign language instructor and ESL instructor distinguish between linguistic knowledge and cultural knowledge. Comprehension testing often depends upon performance in a specific interpretive task, but even if the text interpreter knows the syntax and vocabulary of the specific text, if the frame is not known and the text-frame relationship is other than Entry, performance may be poor. As a remedy the teacher may erroneously return to further syntactic or lexical drills, when the student's difficulty lies really in (lack of) frame knowledge. In order to avoid this ineffective approach comprehension tests must be designed with great care, making use of frames known to the student, in order to provide proper assessment of linguistic skills.

CONCLUDING REMARKS

Comprehension involves more than vocabulary and linguistic (grammar) information. In addition the reader must use cultural knowledge. Effective, fluent reading involves prediction, which is impossible without that cultural information. Robichaux's approach as outlined in this paper provides a typology of text-frame relationships which can be exploited to teach culture effectively, and language within that cultural framework, with variety and interest.

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